

In re Patent Application of:  
**ZAKHAROFF**  
Serial No. 10/786,450  
Filed: February 25, 2004

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#### REMARKS

The Examiner is thanked for the thorough examination of the present application. The Examiner is also thanked for properly withdrawing the previous rejections. Independent Claims 10 and 17 have been amended to address minor informalities. The patentability of the claims is discussed below.

#### I. The Claimed Invention

The invention, as recited in independent Claim 1, for example, is directed to a communications system which includes at least one destination server for hosting a plurality of electronic mail (email) message boxes, and a plurality of communications devices for generating email messages each associated with a respective message box. The system further includes a delivery server including a plurality of queues and a controller. More particularly, the controller is for storing the email messages generated by the communications devices in a first queue, and attempting to send the stored email messages to the at least one destination server at a first sending attempt rate. The controller also moves email messages stored in the first queue to a second queue based upon receipt of a delivery failure message.

The controller then attempts to send email messages stored in the second queue to the at least one destination server at a second sending attempt rate that is less than the first sending attempt rate. The second queue is one of a plurality of queues arranged in a hierarchy. Each queue in the plurality of queues has a storage interval that successively increases from a

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highest queue to a lowest queue.

The controller also moves email messages from a higher queue to a next lower queue after being stored in the higher queue for a duration of its storage interval. The controller also advantageously moves email messages having a common characteristic with a successfully delivered email message to the first queue.

Independent Claim 10 is directed to a corresponding delivery server of independent Claim 1. Independent Claim 17 is directed to a corresponding method of independent Claim 1, and independent Claim 24 is directed to a related computer-readable medium.

## **II. The Claims Are Patentable**

The Examiner rejected independent Claims 1, 10, 17, and 24 over a four-way combination of Shaw et al., D'Souza et al., Rouse, and Sherwood. Shaw et al. is directed to an enterprise email management system for handling large volumes of email, responding through enterprise email system users or automated processes. The Examiner correctly recognized that the primary reference, Shaw et al., fails to disclose;

- 1) storing the email messages generated by the communications device in a first queue;
- 2) attempting to send the stored email messages to the at least one destination server at a first sending rate;
- 3) the second queue being one of a plurality of queues arranged in a hierarchy;

4) each of the plurality of hierarchal queues has a storage interval that successively increases from a highest queue to a lowest queue;

5) attempting to send email messages stored in the second queue to the at least one destination server at a second sending rate less than the first sending rate;

6) moving email messages stored in the first queue to the second queue based upon receipt of a delivery failure message;

7) moving email messages having a common characteristic with a successfully delivered email message to the first queue; and

8) moving email messages from a higher queue to a next lower queue after being stored in the higher queue for a duration of its storage interval.

The Examiner then turned to D'Souza et al. for some of these critical deficiencies. D'Souza et al. is directed to a system and method of mitigating attacks, such as denial of service attacks in a communications network. More particularly, D'Souza et al. discloses monitoring source addresses of packets in a network and comparing the source addresses to known legitimate addresses. If a source address is known as being legitimate, the packets are placed in a high priority queue for transmission at the highest rate. Packets with unknown addresses are placed in a lower priority queue and the packet serviced at a lower rate.

The Examiner further correctly recognized that even a selective combination of Shaw et al. and D'Souza et al. fails to

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disclose the sending rates as sending attempt rates. The Examiner turned to Rouse for this critical deficiency. Rouse is directed to a serial link communications system that includes cascaded switches.

The Examiner further correctly recognized that even a selective combination of Shaw et al., Rouse, and D'Souza et al. fails to disclose moving email messages having a common characteristic with a successfully delivered email message from the second queue to the first queue. The Examiner turned to Sherwood in an attempt to supply these critical deficiencies.

Sherwood is directed to a system for selective application of email delivery options. More particularly, Sherwood discloses a system for selectively applying delivery options to addresses in an email, for example, selectively applying a delivery confirmation and/or return receipt for an email address.

Applicant submits that the Examiner mischaracterized the prior art in that even a selective combination of the four prior art references fails to disclose each queue of the plurality of queues having a storage interval that successively increases from a highest queue to a lowest queue. The Examiner contended that paragraphs 0028 and 0029 of D'Souza et al. somehow supply this critical deficiency. Paragraphs 0028 and 0029 of D'Souza et al. disclose packets being sent to different queues, one of which is serviced at a highest rate, and another of which being serviced at a lower rate. (See D'Souza et al., paragraph 0028). "To move from one group to the next, a client must prove itself to be legitimate." (See D'Souza et al., paragraph 0029,

and FIG. 3). More particularly, if a packet is found to be "good," i.e. found in a "good" table, the packet is placed in a higher bandwidth queue, and as a result is serviced at a higher rate. (See D'Souza et al., paragraph 0030). Moreover, "bad" packets can be moved to the "good" table if it turns out the packets are from a legitimate source. (See D'Souza et al., paragraph 0030). Nowhere in D'Souza et al. does it disclose each queue of the plurality of queues having a storage interval that successively increases from a highest queue to a lowest queue, but rather queues serviced at different rates.

Indeed, a rate, as in D'Souza et al. is not the same as the claimed storage interval. In particular, the present claims recite an "attempt rate" and a "storage interval," and thus, cannot refer to the same element. For example, Applicant's specification paragraphs 0033-0035 describe:

[0033] Thus, when an email message has been stored in a given one of the queues **32a'-32c'** for the respective storage interval thereof, the controller **30'** moves the email message to the next lower queue in the hierarchy. This helps further relieve congestion over the use of a single second queue, as email messages are then distributed over multiple queues instead of all collecting in one.

[0034] One exemplary embodiment would be to include seven second queues which respectfully store email messages up to intervals of one hour, two hours, four hours, eight hours, twelve hours, twenty-four hours, and forty-eight hours after they are received by the controller **30'**. Once an email message

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has remained in the lowest queue in the hierarchy for the storage interval thereof, the controller 30' may discard the message, for example.

[0035] The controller 30' may also attempt to send messages from each of the queues 32a'-32c' at successively decreasing sending rates from the highest queue 32a' to the lowest queue 32c'.

Accordingly, independent Claims 1, 10, 17, and 24 are patentable for at least this reason alone.

Applicant further submits that the Examiner mischaracterized the prior art in that it fails to disclose moving email messages stored in a higher queue in the hierarchy to a next lower queue after being stored in the higher queue for a duration of the storage interval. The Examiner contended that this critical deficiency is somehow disclosed by Shaw et al., Col. 11, lines 40-46.

Applicant notes that the Examiner has also contended that the same passage of Shaw et al. (i.e. Col. 11, lines 40-46) also disclose moving email messages stored in said first queue to a second queue based upon receipt of a delivery failure message as recited in the independent claims. (See page 4 of the Official Action of March 24, 2011). Indeed, the Examiner is improperly using the same prior art element to meet two separate claim recitations.

Applicant submits that the Examiner mischaracterized Shaw et al. in that it discloses moving a message from a lower queue to a higher queue having a shorter time out period. In

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other words, Shaw et al. is opposite of the claimed invention, which, as recited in the independent claims, moves email messages stored in a higher queue in the hierarchy to a next lower queue after being stored in the higher queue for a duration of the storage interval, the plurality of queues having a storage interval that successively increases from a highest queue to a lowest queue.

Once a message's queue timer expires, a predetermined action is performed by the email queuing and mailbox system 140. In one embodiment, the email message may be routed to another specified queue or user mailbox. The second queue may have a higher priority by indicating a shorter time out period allotted to messages place in the new queue. (See Shaw et al., Col. 11, lines 5-12). (Emphasis Added).

Accordingly, independent Claims 1, 10, 17, and 24 are patentable also for this reason.

Applicant further submits that the Examiner's combination of references is improper. More particularly, a person having ordinary skill in the art would not turn to Sherwood or Rouse in an attempt to supply the critical deficiencies of Shaw et al, and D'Souza et al., and even turn to D'Souza et al. to combine with Shaw et al. Sherwood is directed to a system for applying delivery options to addressees in an email. More particularly, Sherwood discloses selecting an option of delivery confirmation and return receipt for an addressee. Sherwood is not directed to sending the email, as it is sent using "the conventional email composition and sending process."

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Rouse is directed to serial link data processing. More particularly, Rouse is directed to a network switch for network communication among devices connected to the switch.

In stark contrast, D'Souza et al. is directed to a queuing method for mitigation of packet spoofing. More particularly, D'Souza et al. attempts to mitigate attacks such as Denial of Service attacks by examining all incoming packets. In stark contrast from D'Souza et al., Rouse, and Sherwood, Shaw et al. is directed to an enterprise email management system for handling large volumes of email. Indeed, the Examiner is using impermissible hindsight reconstruction based on motivation provided by Applicant's own specification in an attempt to produce the claimed invention by selectively assembling disjoint pieces of the prior art. Accordingly, the Examiner's combination of references is improper.

It is submitted that independent Claims 1, 10, 17 and 24 are patentable. Their respective dependent claims, which recite yet further distinguishing features, are also patentable over the prior art and require no further discussion herein.



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CONCLUSION

In view of the arguments provided herein, it is submitted that all the claims are patentable. Accordingly, a Notice of Allowance is requested in due course. Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,



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